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A DISTRIBUTION STUDY OF THE OCTOCORALLIA OF OREGON

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With Text-figure 1 and Tables 1-2

Introduction:

The purpose of this report was to identify the species of octocorals, note their occurrence or distribution and also their numbers.

The Octocorals of this report were collected mainly from the Oregonian Region. The majority of specimens were collected by the Oceanography Department of Oregon State University at depths below 86 meters. A few inshore species were collected at various sites along the Oregon Coast (see Fig. 1). Only two species were found in the Intertidal Zone; the bulk of the Octocoral fauna occur offshore in deeper water.

Most of the deep water specimens are now deposited in the Oceanography Department of Oregon State University in Corvallis, Oregon. The inshore specimens have remained in my personal collection.

Identification Methods:

No references have been published for the soft corals of Oregon; although collections have possibly been made in the past. Helpful sources for identification, after the standard methods of corrosion, and spicule measurements have been made are: Bayer, 1961; Hickson, 1915; Kükenthal, 1907, and 1913; Nutting, 1909 and 1912; Utinomi, 1960, 1961, and 1966 and Verrill, 1922. Specimens of *Umbellula* were not subjected to corrosion nor separated according to species at this time.

Collection Sites:

Inshore collection sites have been made mainly at Boiler Bay; Depoe Bay; Newport; Sunset Bay, and the three coves of Cape Arago State Park and Cape Blanco. Various sites in deeper marine water occur off the Mid-Oregon Region (Fig. 1) between longitudes 124°W latitude 44°N and 128°W 44°N.

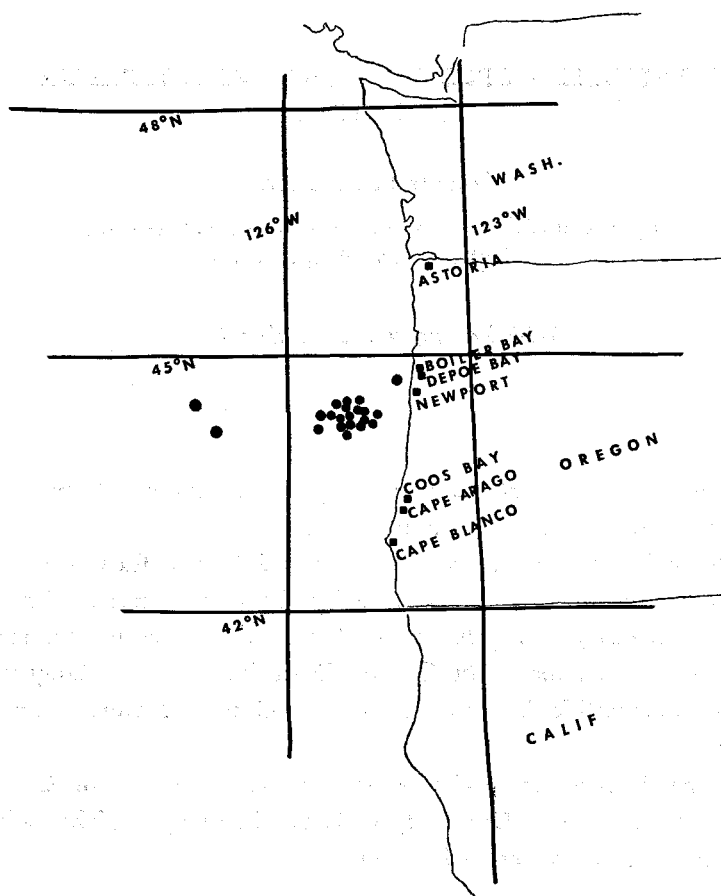


Fig. 1.

Discussion:

Results of the five year study, has been to gain information on numbers of species and specimens, depth and zonation, locality and bottom type habitats.

The soft corals identified show a relationship to those of the Californian Coast as well as to those of Japan and the Atlantic Coast of North America. According to number, the most common species are the pennatulids, *Balticina pacifica* and *Stylatula elongata* with the sea anemone, *Stephanauge* sp. and also the inshore alcyonarian, *Gersemia rubiformis*, collected at Cape Blanco and also in extensive beds with *Epizoanthus* sp. at Simpson Reef near Cape Arago State Park.

Some confusion remains over the identification of certain forms; the inshore form commonly referred to as "Clavularia" is possibly an immature specimen of *Gersemia fruticosa* (Sars, 1960), collected at Boiler Bay, Sunset Bay near Cape Arago State Park and Cape Blanco. It agrees in habit of growth, small clustered polyps and in spicules. The nudibranch, *Tritonia festiva* is usually found near by and is possibly a predator. However, a species of *Clavularia* does occur offshore in 1,530

Table 1. Octocorals grouped according to depth in meters

I. Intertidal	<i>Umbellula</i> spp. 823-914 M, 861 M, 1000 M
<i>Gersemia fruticosa</i>	
<i>Gersemia rubiformis</i>	<i>Funiculina armata</i> 750 M, 800 M, 861 M
II. Shallow water, neritic or offshore (5-200 meters)	<i>Acanella</i> sp. 832 M
<i>Gersemia rubiformis</i> (Shallows)	<i>Virgularia</i> sp. 800 M
<i>Psammogorgia spauldingi</i> (Shallows)	IV. 1,000 to 2,000 meters
<i>Ptilosarcus gurneyi</i> 86 meters	<i>Balticina pacifica</i> 1,335-1,372 M, 1,530 M
<i>Stenogorgia kofoidi</i> 101-106 M, 126 M, 138 M	<i>Clavularia</i> sp. 1,530 M
<i>Stylatula elongata</i> 128-146 M, 165-183 M, 190 M	<i>Helicoptilum rigidum</i> 1,829 M
<i>Scleroptilum</i> sp. 109 M	<i>Radicipes</i> sp. 2,000 M
III. 500 to 1,000 meters	V. 2,000 to 3,000 meters
<i>Balticina pacifica</i> 549-640 M, 800 M	<i>Plumarella</i> sp. 2,086 M
<i>Pennatula phosphorea</i> 861 M	<i>Pennatula</i> sp. 2,600 M
<i>Anthoptilum grandiflorum</i> 861 M	<i>Kophobelemnon hispidum</i> 2,800 M

Table 2. Systematic list of Oregon octocorals

Subclass Octocorallia	Order Pennatulacea
Order Stolonifera	Suborder Sessiliflorae
Family Clavulariidae	Family Kophobelemnidae
1. <i>Clavularia</i> sp.	10. <i>Kophobelemnon hispidum</i>
Order Alcyonacea	11. <i>Kophobelemnon</i> sp. (possibly immature)
Family Nephtheidae	Family Anthoptilidae
2. <i>Gersemia rubiformis</i> (Ehrenberg, 1834)	12. <i>Anthoptilum grodiflorum</i> (Verrill)
3. <i>Gersemia furticosa</i> (Sars, 1860)	13. <i>Anthoptilum</i> sp. (possibly immature)
Order Gorgonacea	Family Funiculinidae
Suborder Holaxonia	14. <i>Funiculina armata</i> Verrill
Family Plexauridae	Family Protoptilidae
4. <i>Euplexaura marki</i> Kuth	15. <i>Helicoptilum rigidum</i>
5. <i>Psammogorgia spauldingi</i> Nutting	Family Scleroptilidae
Family Gorgoniidae	16. <i>Scleroptilum</i> sp.
6. <i>Stenogorgia kofoidi</i> Nutting	Family Umbellulidae
Family Primnoidae	17. <i>Umbellula</i> spp.
Subfamily Primnoinae	Suborder Subselliflorae
7. <i>Plumarella</i> or <i>Thouarella</i> sp.	Family Virgulariidae
Family Chrysogorgiidae	Subfamily Virgulariinae
Subfamily Lepiogdorgiinae	18. <i>Virgularia</i> sp.
8. <i>Radicipes</i> (<i>Lepidogorgia</i>) sp.	19. <i>Stylatula elongata</i>
Family Isididae	Subfamily Balticininae
Subfamily Keratoisidinae	20. <i>Balticina pacifica</i>
9. <i>Acanella</i> sp.	Family Pennatulidae
	21. <i>Pennatula phosphorea</i>
	22. <i>Ptilosarcus gurneyi</i>

meters with the tropical black coral *Antipathes* sp. on old pogonophoran tubes and has the rambling, connected, single large polyp habit of growth and different types of spicules.

Interestingly, the octocoral fauna also shows zonation (Table 1) according to depth of water. More than twenty species of octocorals occur (see systematic list, Table 2) in this area, 1 Stolonifera member, 2 Alcyonacea, 6 genera of Gorgonacea, and 11 genera of pennatulids.

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